

PATENT CLAIMS

1. An electrical pressure contact spring (3) of electrically conductive wire, with

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- a first contacting region (31) for contacting a first electrically conductive contact pad (1), a contact tip (31) being arranged in the first contacting region for contacting the contact pad,

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- a second contacting region (32) for contacting a second electrically conductive contact pad (2), and

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- a compressing region (33), with at least one wire curvature, arranged between the first contacting region (31) and the second contacting region (32),

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a straight piece of wire (34) extending from the compressing region (33) and finishing in the contact tip (31) running in the direction of the spring force (F),

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characterized in that

- the contact tip (31) is rounded with an outer radius (R), and in that

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- the outer radius (R) corresponds to one to three times the thickness of the wire (a).

2. The pressure contact spring as claimed in claim 1, characterized in that

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- the wire is bent in the first contacting region, and in that

– this wire bend forms the contact tip (31).

3. The pressure contact spring as claimed in claim 2,
characterized in that

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– the wire has a rectangular cross section with a
thickness (a) and a depth (b), and in that

– the spring is bent in a plane perpendicular to
the depth (b).

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4. An electrical contact arrangement, comprising

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– a first electrically conductive contact pad (1),
– a second electrically conductive contact pad (2),
and

– an electrically conductive connection (3) between
the first and second contact pads,

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the two contact pads being arranged opposite each
other and the connection being an electrical
contact spring (3) clamped between the two contact
pads as claimed in one of claims 1 to 3.

5. The contact arrangement as claimed in claim 4,
characterized in that

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– the first contact pad (1) has a hardness of from
45 to 70 Hv, and in that the spring force (F)
lies between 4 and 12 N.

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6. The contact arrangement as claimed in claim 4,
characterized in that

– the contact arrangement comprises means by which
the contact tip (31) of the pressure contact

spring is prevented from penetrating through the first contact pad (1) when it penetrates into said first contact pad.

5 7. The contact arrangement as claimed in claim 6, characterized in that

10 - the means comprise a multilayered first contact pad (1), a barrier layer (12) which consists of a harder material than the material of a surface layer (11), the barrier layer (12) being arranged under said surface layer (11).

15 8. The contact arrangement as claimed in claim 7, characterized in that

20 - the barrier layer (12) has clearances (13) which are filled with the material of the surface layer (11).

25 9. A power semiconductor module (8), comprising

25 - at least one power semiconductor chip (4) with at least one electrode with a metallization (2), and
- at least one electrical contact arrangement as claimed in one of claims 4 to 8,

30 the electrode metallization (2) being the first contact pad of the contact arrangement and a terminal (1) led out from the module being the second contact pad of the contact arrangement.

35 10. The power semiconductor module as claimed in claim 9, characterized in that

- the power semiconductor module (8) is filled with an electrically insulating gel (9) in the region between the first and second contact pads.